

MOSFET(N-Channel)

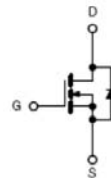
FEATURES

High Power and current handing capability

Lead free product is acquired

Surface Mout Package

MARKING: XORB



SOT-23-3L



1. GATE
2. SOURCE
3. DRAIN

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source voltage	30	V
V _{GS}	Gate-Source voltage	±12	V
I _D	Drain current	5.8	A
P _D	Power Dissipation	1.4	W
T _j	Junction Temperature	-55-150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250uA	30			V
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} = V _{GS} , I _D =250 uA	0.7	0.9	1.4	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =± 12V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	uA
Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =2.5V, I _D =4A			59	m Ω
		V _{GS} =4.5V, I _D =2.9A			45	m Ω
		V _{GS} =10V, I _D =2.9A			41	m Ω
Forward Trans conductance	g _{fs}	V _{DS} =5V, I _D =2.9A	10			S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz		623		pF
Output Capacitance	C _{oss}			99		
Reverse Transfer Capacitance	C _{rss}			77		
Switching Capacitance						
Turn-on Delay Time	t _{d(on)}	V _{DD} =15V, I _D =2.9A, V _{GS} =10V R _{GEN} =3 Ω		3.3		nS
Turn-on Rise Time	t _r			4.8		nS
Turn-off Delay Time	t _{d(off)}			26		nS
Turn-off Fall Time	t _f			4		nS
Total Gate Charge	Q _g	V _{DS} =15V, I _D =5.8A, V _{GS} =4.5V,		9.5		nC
Gate-Source Charge	Q _{gs}			1.5		nC
Gate-Drain Charge	Q _{gd}			3		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _D =2.9A		0.75	1.2	V
Diode Forward Current	I _S				2.9	A

Typical Characteristics

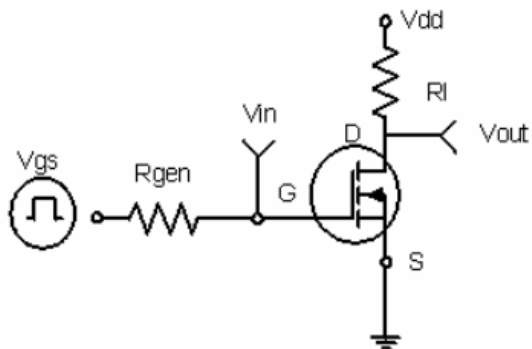


Figure 1: Switching Test Circuit

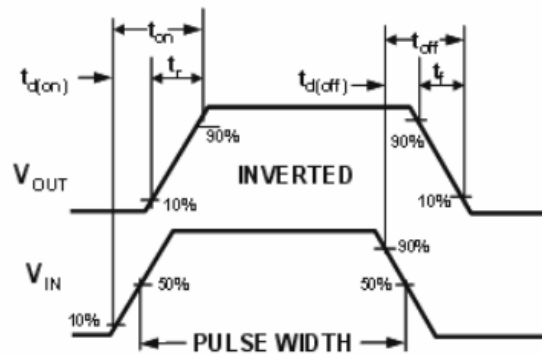


Figure 2: Switching Waveforms